

## ABSTRACT

The present invention is directed to a circuit capable of matching variable impedances, and implements the variable impedance matching circuit by varying an electrical length of a transmission line by means of external control signals. In the L or  $\pi$  type matching circuit using inductance and capacitance as lumped elements, the variable impedance matching circuit is implemented by changing impedance values of the variable inductance and variable capacitance as lumped elements which have been made to be controlled, or by changing a topology of a circuit network by external control signals. Therefore, the variable impedance matching circuit according to the present invention enables it possible to electrically control an impedance of interest from arbitrary impedances, thereby a radio frequency circuit to which the variable impedance matching circuit belongs can be controlled, and the matching circuit can be implemented with arbitrary complex loads from any RF signal sources.